Seagull 2000

DAVID ASHBY GETS ACQUAINTED WITH THE FIRST IN A NEW RANGE OF BALSA-BUILT GLIDERS FROM SEAGULL

A blingy mock carbon canopy needs a similar spinner in my book.

Seagull's 2000 is clearly for intermediate and experienced pilots.

This is something of a departure for a company that's built a good reputation based on a successful line of i.c. sport and scale designs. Refreshingly, though, Seagull has resisted the urge to use foam for this 78.75" (2000mm) span powered glider and instead do what they do best, by using good ol' balsa and ply in its construction.

With one or two exceptions, quality is generally up to Seagull's high standard. The flapless wing is a finely sculpted undercambered device with long, factory-hinged strip ailerons, and there's a T-tail at the aft end (no rudder, disappointingly). Access to the interior is via the wing cavity and a forward canopy hatch that's retained by a tab at the front and a strong magnet to the rear. The small landing wheel is a nice touch and, overall, the appearance is of a slick-looking aircraft.

POWER CHOICE

The power system recommendation is brief, the box and instructions referring only to a 400 / 480-size electric motor and 9 x 7" prop. Pictured in the instructions, meanwhile, is a 2000mAh 3s Li-Po.

I think this is a sports / warmliner / hotliner at heart, so my power system selection centred on getting a respectable number of watts from the powertrain, sufficient to pull the 2.5 lb (1.1kg) model around with a decent amount of authority. I'm a bit of a fan of MVVS cased outrunners and after initially trying a 2.5 1350Kv motor, settled on a 3.5 1200Kv unit swinging a 9 x 6" prop. Powered by a 3s 2200mAh Li-Po via a 60A ESC the system produces 390W at 37A peak, which is sufficient to place the model firmly in the borderline hotliner bracket.

Incidentally, MVVS outrunners are beautifully made, the aforementioned sizes (2.5 and 3.5) referring to the i.c.

equivalent in cc. With an outer sleeve to protect the rotating outrunner case they're the perfect solution for narrow noses, and in operation they emit a satisfying turbine-like sound. Whatever you fit, do bear in mind that the nose of the 2000 won't accommodate a motor with a diameter greater than 1.4" (35mm).

FIT AND FIN

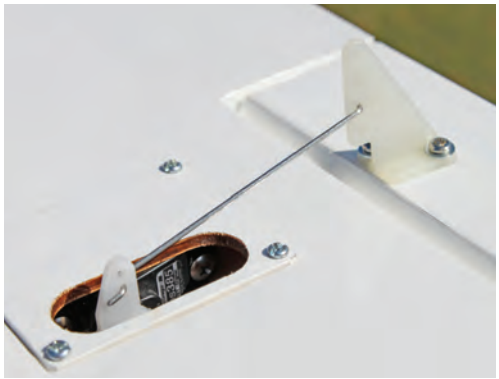
Personally, I think it's high time that Seagull invested a little more in the content of their instruction manuals. The booklet supplied with the 2000 is a photo step guide, and although generally sufficient for the intermediate builder it really should be made clearer with the addition of some explanatory text.

Assembly is conventional and basically involves dropping in your chosen R/C and power system. Fitting the motor is nothing more than marking and drilling the firewall to accept the outrunner's retention bolts. A posh spinner sets the model off a treat, and here I fitted a blingy, mock-carbon job and cam prop set from Puffin Models.

The 2000 has been designed to accept micro servos, although the slim wing means that only svelte micros (no fatter than 11mm) will suffice. I used JR digitals for the ailerons and a Jamara mini servo in the tail to drive the elevator. Incidentally, the fin cavity is large enough to house a mini, if you don't have a micro to hand. The servos I've fitted are all rated at 2kg torque, although those with a lower rating of, say, 1.5kg, could be used, perhaps if a more modest power system is being considered?

Getting the elevator servo and stabiliser / elevator assembly together and operational is a bit fiddly, a job that's made easier by fitting the stabiliser first. With this, the elevator pushrod wire can then be aligned with greater certainty. It's important to fit the elevator control horn 12mm out from the hinge line (see photo) to ensure sufficient movement, as

It's a nice aeroplane and, at this price, makes a very refreshing change from foam.



Slim micro servos are required for the wing. I dispensed with the quick links, opting instead for double Z-bends.

Oddly, there's no rudder, which is a real pity.

The elevator servo hatch cover is sculpted to blend with the fuselage curves and is best secured with screws.

These photos were taken with the 2.5 motor, however the 3.5 and larger prop move the performance envelope into hotliner territory.

illustrated (sort of!) in the manual. The rather unwieldy elevator servo hatch cover has been moulded to fit the fuselage curves and is, with good reason, best attached using four small corner screws rather than the cyano suggested in the manual.

Hands up, I committed the reviewer's cardinal sin and replaced some of the supplied hardware when fitting the aileron horns. The recommended connection method is via little push wires that are linked at the servo output arm via a Z-bend, and a quick connector at the aileron horn. Anyway, my usual preference is to have quick connectors retained using two nuts that can be locked, yet here I dispensed with the quick connectors entirely. Mindful of the fact that I'd selected a relatively punchy power system that promised a spirited performance, I decided to carefully fashion a secure Z-bend at both extremities.

Seagull normally excels where fit of assemblies is concerned, but not in this case. Alas, the wing bolt holes misalign with the fuselage captive nuts, a problem that isn't helped by wing l.e. retention lugs that need a little careful trimming to fit the fuselage former. I decided to open out the holes to give the bolts space to move into alignment, a fix that works well enough.

UPWARDS

I'm certainly happy with my chosen power system, which pulls the model up at a very respectable, if not vertical, rate of climb and provides a warmliner performance envelope. One point, though: the design doesn't incorporate any form of power system airflow cooling. This, then, is certainly something to be considered when fitting a higher performance powertrain. What I assume is an air exit slot has been left just behind the wing on the fuselage underside, although the covering must be removed to reveal it. I've now enabled this feature by shaping a hole in the canopy hatch and opening out said aperture.

Once up, you'll find the 2000 has a nice sport glider or liner-like performance. Full power sees the model pulling up to the vertical very quickly; so quick, in fact, that only a gradual throttle increment is advisable from a hand-launch in order to prevent the machine pulling over into a loop, despite the application of any down elevator. This is a disconcerting experience (to say the least!) within the first few seconds of a flight, so just a breath of that powerful elevator is all that's required. The design needs a little down-thrust in all honesty and although some trim helps, it's good reason why some care is required when using a powerful set-up. A nicely upwards spiralling ascent seems to suit once she's away, the elevator softened with some exponential, say 20 to 30%.

The suggested elevator and aileron rates produce a pretty sprightly performance, so I've left them as they are. Aileron response is good, although this can be sluggish at slow speed or where the angle of

The little wheel is a nice touch and helps lift the belly off the deck to protect the soft balsa underside.

words » **David Ashby** | photos » **Graham Ashby / David Ashby**

Surprisingly the wing bolts didn't quite align with the interior captive nuts.

These MVVS outrunners are beautifully made. The motor rotates inside a protective case making it ideal in tight spaces.

attack starts to rise. Some differential would probably help here. I do so miss the rudder and, despite its absence, I still try to add it from time to time – a regrettable omission from the design.

This isn't a dedicated thermal soarer but it will certainly catch some rising air, despite having a wing loading figure the wrong side of what the dedicated thermal seeker would look for. With a little care, even those new to glider flying will find that a combined motor burn time totalling five minutes should generate overall flight endurance exceeding twenty.

Within reason, low-speed flight won't bite, but stooge around and you'll find the stall point easily enough. I've not felt the need to dial-in spoilerons when landing, as the fields I use tend to provide plenty

The 2000 is more a warm / hotliner than a soarer and makes a great all-rounder as a result.

Watch our Seagull 2000 in action at modelflying.co.uk

> ***...just a breath of that powerful elevator is all that's required.***

of space for lining this sort of model up and bleeding off any excess speed while using the large prop to slow the model down before touchdown.

LIFTED?

I'd assumed this one would be aimed at the relative beginner, offering a balsa alternative to the Easy Glider and Radian Pro, but that's not really the case. Seagull's 2000 is clearly for intermediate and experienced pilots since the instructions make no concession for the novice, and the stiffer structure points to a machine that feels better in the sport / warmliner role. Indeed it offers a sprightly performance when combined with an appropriate power system.

Whilst easy to overcome, a few niggles do crop up during assembly, although these are soon forgotten after the first few flights. This aeroplane certainly does fly well, and is a very flexible bit of kit that's suited to both flat-field and slope, calm weather or rough, sun or snow. It's a role that's been filled by my ST Blaze, although after more than 150 flights the dear thing is starting to signal its intention to retire. Hanging up its wings will create a gap that this one will fill very nicely.

DATAFILE

Name:	Seagull 2000
Model type:	ARTF motor glider
Manufactured by:	Seagull
UK distributor:	J. Perkins Distribution Ltd. Tel. 01622 854309 www.jperkinsdistribution.co.uk
RRP:	£119.99
Wingspan:	78.75" (2000mm)
Fuselage length:	37" (941mm)
Wing area:	3.4sq. ft. (0.3sq. m)
All-up weight:	2.5 lb (1.1kg)
Wing loading:	11.8oz / sq. ft. (3.6kg / sq. m)
Functions (servos):	Aileron (2); elevator (1); throttle (via ESC)
Power system:	MVVS 3.5 1200Kv outrunner; 60A ESC; 3s 2200mAh Li-Po; 9 x 6" folding prop
Quality:	Poor | Acceptable | Excellent
Assembly:	Easy | Intermediate | Difficult
Flying:	Novice | Improver | Experienced